

## REMARKS

Claims 40-96 are pending in the present application.

In the Office action mailed August 2, 2004, the Examiner rejected claims 40-96 under 35 U.S.C § 103(a) as allegedly being unpatentable over Kondo, U.S. Patent No. 6,526,028 B1 ("the '028 patent"), in view of Kondo, U.S. Patent No. 6,580,745. These rejections are respectfully traversed.

Rejection of Claims 40-96 under 35 U.S.C § 103(a)

A conventional wireless communications system is generally divided into cellular regions, with a base station assigned to each region. A mobile subscriber station in communication with one base station may be handed off to another base station when the subscriber station enters a new cellular region. The process of handing off a subscriber station from one base station to another is based on the signal strength of a forward link pilot signal transmitted from each base station. A handoff may be initiated when the subscriber station detects an increase in the pilot signal strength of a new base station as it travels into the transition region between multiple cells. When the pilot signal strength reaches a certain level, the subscriber station establishes communications with the new base station. At that moment, the subscriber station communicates with both the new and the original base station, and continues to do so until the signal strength of the original base station drops below a certain level that causes the subscriber station to terminate communications with the original base station.

The '028 patent discloses a slight variation to this conventional approach. A subscriber traveling through the transition region between multiple cells will receive forward link communications from both the new and original base stations only when fading is high. When the fading is low, the subscriber station will receive forward link communications from only one base station to reduce interference. The '028 patent discloses several ways of performing this operation.

In a first embodiment of the '028 patent, the subscriber station communicates with several base stations when moving through the transition region between cells. The subscriber station provides feedback to each base station that identifies the particular base station with the minimum forward link propagation loss (which we will call the first base station), and an error detection signal. The first base station communicates with the subscriber station over the

forward link channel, but the other base stations may adjust their forward link power or terminate forward link communications all together depending on the feedback. In particular, each base station will reduce its forward link power if (1) it determines that the fading on the reverse link channel is below a threshold, and (2) using the error detection signal, is able to successfully decode the feedback, and determine from the feedback that it is not the first base station (i.e., the base station with the minimum forward link propagation loss).

In a second embodiment of the '028 patent, the first base station is not determined by the subscriber station, but rather by a base station controller from reverse link quality measurements made at each base stations. The feedback from the subscriber station includes fading information for the forward link channel and an error detection signal. In this second embodiment, each base station will reduce its forward link power if (1) it is not the first base station (i.e., the base station identified by the base station controller from the reverse link quality measurements), and (2) using the error detection signal, is able to successfully decode the feedback, and determines from the feedback that the fading on the forward link channel is low.

The main difference between the two embodiments is that in the first embodiment, the first base station is selected based on the quality of the forward link channel and fading is determined for the reverse link channel. In the second embodiment, the first base station is selected based on the quality of the reverse link channel and fading is determined for the forward link channel. However, in both embodiments, the first base station is selected based on the quality of the channel in one direction and fading is determined for the channel in the opposite direction.

Applicant discloses a novel and unobvious handoff procedure that constitutes a significant departure from that disclosed in the '028 patent. In particular, Applicant discloses a method in which a first base station is selected based, at least in part, on the energy of the pilot signals received from one or more base stations, but only handoffs forward link communications to the first base station if the quality of the reverse link channel is acceptable. In claim 83, the decision to handoff forward link communications to the first base station is based on the average quality of a reverse link signal between the first base station and the subscriber station. In claims 40-82 and 84-87 the quality of the reverse link, from which the handoff decision is made, is measured by the reverse link power control commands from the first base station, and in claims 88 and 89 the reverse link quality is measured by reverse link rate requests from the first base

station. This is to be contrasted to the '028 patent where forward link communications are always handed off to the first base station. Fading measurements are used solely to determine whether to adjust the forward link power of the other base stations.

The Examiner takes the position that the '028 patent discloses the process of selecting the first base station based on the energy of the pilot signals received from one or more base stations. In support of this position, the Examiner relies on the first embodiment disclosed in the '028 patent where the subscriber station selects the base station with the minimum propagation loss (i.e., the first base station) to handoff forward link communications. The Examiner then asserts that the '028 patent discloses the process of determining whether to handoff forward link communications to the first base station based on the quality of the reverse link channel between the subscriber station and the first base station. In support of this position, the Examiner relies on the second embodiment disclosed in the '028 patent. The Examiner's position is untenable for at least two reasons.

First, it is improper for the Examiner to rely on one embodiment in the '028 patent for one element of the claim, and rely on a different, separate and independent, embodiment in the '028 patent for another element of the claim. Contrary to the position taken by the Examiner, there is absolutely no teaching or suggestion in the '028 patent to select the first base station based on the quality of the reverse link channel as described in connection with the first embodiment, and then determine fading for the same reverse link channel as described in the second embodiment. As indicated above, it appears that the various embodiments described in the '028 patent teach that whatever direction is used to select the first base station, fading is determined in the other direction.<sup>1</sup>

Second, the Examiner is incorrect in asserting that the second embodiment of the '028 patent discloses the process of determining whether to handoff forward link communications to the first base station based on the quality of the reverse link channel. As discussed earlier, the method in both embodiments disclosed in the '028 patent always requires a handoff to the first base station. The fading information is not used to decide whether to handoff forward link

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<sup>1</sup> The Examiner appears to be confused with respect to the second embodiment. The Examiner argues that the '028 patent describes a method in which handoff to the first base station is determined according to "the transmission power information signal . . . received from the first base station." (emphasis added). However, "the transmission power information signal" is not received by the subscriber station from the first base station, but rather is the feedback generated by the subscriber station and provided to each of the base stations.

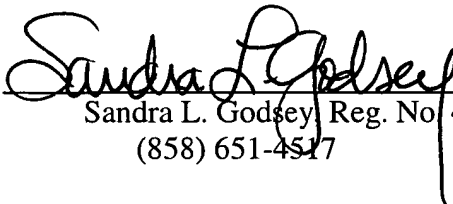
communications to the first base station, but rather to adjust the forward link transmit power of the other base stations.

**REQUEST FOR ALLOWANCE**

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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By:   
Sandra L. Godsey, Reg. No. 42,589  
(858) 651-4517

QUALCOMM Incorporated  
5775 Morehouse Drive  
San Diego, California 92121  
Telephone: (858) 651-4125  
Facsimile: (858) 658-2502